

**In the Abstract:**

Please replace the Abstract of the Disclosure with the following new Abstract:

An anode diffusion layer comprises a carbon-based material and a water holding layer comprising 5 to 20 wt% of the total water holding material and an electron conductive material. Alternatively, carbon particles having water absorption 150 cc/g or more at 60°C saturated water vapor pressure are in the anode diffusion layer. 60°C water absorption ratio of the anode diffusion layer ranges from 40 to 85%, differential pressure from 60 to 120 mmAq, and ratio of electric charge in cathode proton conductive passage is 15% or more of electric charge in catalytic material. Hydrophilic treatment produces a layer including carbon particles absorbing water at 150 cc/g or more at 60°C saturated water vapor pressure and fluorine resin on carbon-based material having a water contact angle of 90° or less. 60°C water absorption ratio ranges from 40 to 85 wt% and penetration resistance is 5mΩ or less.